NUREG-2117 Update – An Industry Perspective

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NRC is updating NUREG-2117, "*Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies."* Several major studies have been conducted that have implemented the guidelines since its publication. NRC is obtaining input from professionals directly involved in the Senior Seismic Hazard Analysis Committee (SSHAC) process and who can provide first-hand "lessons learned" experience. The NRC NUREG -2117 Update Working Group is revising the implementation guidelines by assembling a range of perspectives from various stakeholders and summarizing the range of perspectives from various stakeholders. Interviews with professionals directly involved in the SSHAC process and workshops with invited professionals were held in 2015 and 2016 beginning in June 2015.

There are four focus areas for updating NUREG-2117:

- **Focus Area 1:** Updating Criteria which includes developing guidance providing context on when to use SSHAC Level 1 and SSHAC Level 2 processes
- **Focus Area 2:** Specification of Level 1 and 2 Processes which includes developing minimum steps for Level 1 and 2 processes
- **Focus Area 3:** Detailed Guidance Updates to Level 3 and 4 Processes - Topics Being Discussed Include:
  - Role and Interactions of the Participatory Peer Review Panel (PPRP)
  - Role and Characteristics of the Project Manager (PM)
  - Timing and Flexibility for SSHAC Workshops
    - WS1, Significant Issues and Available Data
    - WS2, Alternative Interpretations
    - WS3, Feedback
  - Coordination between Seismic Source Characterization (SSC) and Ground Motion Characterization (GMC) components
- **Focus Area 4:** Use of SSHAC for Non-Seismic Hazard and Risk Assessment

The planned schedule is to complete the NUREG-2117 Guidance Update in November, 2016.

This presentation will focus on the lessons learned from managing a SSHAC Level 3 assessment process to develop the CEUS SSC source model (2012) and a SSHAC Level 2 assessment process to develop the EPRI (2013) ground-motion model. These models have been used to perform Probabilistic

Seismic Hazard Analysis (PSHA) at DOE sites and by industry to respond to the NRC 2.1 Seismic directive to evaluate the seismic hazard at existing nuclear power plants in the Central and Eastern United States. The revised version of NUREG-2117 should address the need to provide guidance on which SSHAC Level assessment process to use and provide cost-effective SSHAC assessment methodologies which can be performed and approved in 18 months or less.

References:

1) Technical Report: Central and Eastern United States Seismic Source Characterization for Nuclear Facilities. EPRI, Palo Alto, CA, U.S. DOE, and U.S. NRC: 2012.
2) *EPRI (2004, 2006) Ground-Motion Model (GMM) Review Project.* EPRI, Palo Alto, CA: 2013.